JOURNAL OF RAMAN SPECTROSCOPY
J. Raman Spectrosc. 2003; **34**: 1051–1053

JRS

Author Index to Volume 34

Abello, L. *505*
Afzelius, M. *940*
Akimov, D. A. *999, 1007, 1018*
Aleksa, V. *322, 711*
Alfimov, M. V. *999, 1007, 1018*
Alonso, J. A. *240*
Alves, N. *831*
Amorim da Costa, A. M. *357*
Anderson, A. *183, 684*
Appolloni, R. *1025*
Arakcheev, V. G. *952, 977*
Arencibia, A. *264*
Arnold, D. P. *306*
Asilyan, L. S. *1018, 1025*
Avella, M. *999*
Ayala, A. P. *826*
Ayed, N. *205*

Babin, P. *902*
Bagratashvili, V. N. *952*
Baldwin, K. J. *345*
Balzaretti, N. M. *244, 259*
Bao, L.-L. *394*
Baonza, V. G. *264*
Baranović, G. *886*
Barańska, H. *68*
Batchelder, D. N. *131, 345*
Batista de Carvalho, L. A. E. *357*
Beaud, P. *989, 1037*
Beeby, A. *886*
Beloglazov, V. I. *688*
Bengtsson, P.-E. *940*
Bennetau, B. *902*
Bernstein, E. *234*
Beyere, L. *743*
Beyrau, F. *932, 946*
Bian, Y. *306*
Bigotto, A. *84*
Bini, R. *557*
Blajiev, O. *295*
Blanchard, K. *248*
Bolboaca, M. *276, 705*
Bornand, V. *519*
Botti, S. *1018, 1025*
Bougeard, D. *97*
Bousbaa, J. *902*
Bouvier, P. *524*
Bratfalean, R. *1030*
Bräuer, A. *932*
Brehm, G. *26*
Brown, S. *240*
Bruneel, J.-L. *902*
Bugar, I. *1013*
Buixaderas, E. *497*
Bukowska, J. *21*
Bultitude, K. *1030*

Cáceres, M. *264*
Canny, B. *591, 819*
Carabatos-Nédelec, C. *388*
Carpanese, M. *999*
Cattey, H. *497*
Chae, B. *451*
Chazallon, B. *459, 497*
Chen, Y. F. *882*
Chervin, J. C. *591*
Chiang, H. P. *882*
Chirvony, V. S. *868*
Choi, I. S. *271*
Choo, J. *737*
Choplin, F. *902*
Chorvat, D. *1013*
Christensen, D. H. *375*
Chrysos, M. *965, 972*
Ciabini, L. *557*
Ciardi, R. *1018, 1025*
Colomban, P. *205, 290, 420, 438, 786*
Comins, J. D. *77*
Constantino, C. J. L. *831*
Costa, T. M. H. *244*
Crane, M. *214*
Cruz, S. M. G. *350*
Cwalina, B. *424*

da Jornada, J. A. H. *244, 259, 578*
Dai, S. *394*
David, R. *375*
De Dominicis, L. *1018, 1025*
de Moraes, M. T. *837*
de Waal, D. *77*
Deb, S. K. *567*
Delarbre, J. L. *57*
Dem, C. *100*
Denton, M. B. *769*
Desbat, B. *902*
Destombes, J. L. *459*
Dhamelincourt, M.-C. *126, 399*
Dhamelincourt, P. *126, 399, 459*
Dobal, P. S. *152*
Dong, J.-J. *567*
Downs, R. T. *769*
Du, G. *121*
Durig, J. R. *322, 711*

Edvardsson, M. *40*
Edwards, H. G. M. *375*
Eiras, J. A. *826*
El Khalki, A. *438*
Ennabli, A. *205*
Eremets, M. I. *515*
Errico, M. E. *999*
Ewart, P. *1030*

Fantoni, R. *999, 1018, 1025*
Faria, J. L. B. *826*
Farwell, D. W. *375*
Faucher, O. *994*
Faurel, X. *290*
Fedotov, A. B. *688, 999*
Festy, F. *663*
Filho, J. M. *826*
Fiori, A. *1025*
Focsa, C. *459*
Fornarini, L. *999*
Freire, P. T. C. *199, 826*
Frost, R. L. *90, 104, 145, 214, 751, 760, 776*

Galievsky, V. A. *868*
Gallas, M. R. *244*
García-Murillo, A. *234*
Garcia-Ramos, J. V. *227*
Gargouri, M. *253*
Garland, M. *282, 795*
Gaska, R. *471*
Gauthier, M. *591*
Geerlings, P. *295*
Gelin, M. F. *1045*
Gerber, T. *989, 1037*
Gniadecka, M. *375*
Goncharov, A. F. *532*
Gordiyenko, V. M. *952*
Gorelli, F. A. *519, 549*
Grabchak, E. P. *1007*
Griffey, R. H. *183*
Gruger, A. *438*
Gruodis, A. *322, 711*
Gu, R.-A. *221*
Guirgis, G. A. *322, 711*
Gupta, H. C. *240*
Gupta, S. *192*
Gyu Chai, Y. *737*

Haeuseler, H. *339*
Haines, J. *519*
Hallen, H. D. *655*
Hamaguchi, H. *97*
Hamaguchi, H.-O. *1*
Hanfland, M. *591*
Hanuza, J. *199, 371, 432*
Hashimoto, M. *651*
Havel, M. *786*
Haxhillazi, G. *339*
Hayazawa, N. *651*
He, L. *163*
Herault, E. *497*
Hocrelle, D. *497*
Hoge, B. *33*
Hu, J. *892*

Copyright © 2003 John Wiley & Sons, Ltd.

Hu, L. J. 882
Huang, F. 663
Huang, Y.-S. 1
Hubin, A. 295
Hushvaktov, H. 813

Ichikawa, S. 135
Ichimura, T. 651
Ilczyszyn, M. M. 693
Ilczyszyn, M. 693
Iliescu, T. 705
Inouye, Y. 651
Ivanov, A. A. 999, 1007, 1018
Izolani, A. O. 837

Jacobsson, P. 40
Jahncke, C. L. 655
Jakovlev, D. V. 977
Jastrzebska, M. 424
Jeghnou, H. 126, 399
Jiang, J. 306
Job, A. E. 831
Johnston, C. T. 404
Joo, S.-W. 271
Joubert, P. 994
Jumaboev, A. 813
Jung, Y. M. 451

Kamoun, S. 253
Karashima, T. 1
Karmous, T. 205
Katiyar, R. S. 152
Kawata, S. 651
Keating, C. D. 163
Kiefer, W. 100, 180, 276, 413, 475, 639, 705, 917
Kim, S. B. 451
Kim, W.-J. 271
Kincaid, J. R. 907
Kirch, K. 989
Kirchner, E. C. 157
Kireev, V. V. 952
Klaboe, P. 322
Klaeboe, P. 711
Kloprogge, J. T. 90, 145, 751, 760
Knopp, G. 989, 1037
Ko, J.-H. 371
Kocot, A. 424
Kojima, S. 199, 371
Konorov, S. O. 688, 999, 1013, 1018
Kouzov, A. 965, 983
Kreisel, J. 524
Krisch, M. 628
Kruglik, S. G. 868
Kudelski, A. 853
Kuduk-Jaworska, J. 68
Kwok, W. M. 886
Kyu Lee, E. 737

Lambert, P. 375
Lavorel, B. 994
Lazor, P. 845
Le Luyer, C. 234
Lebrun, N. 459
Lee, J.-P. 737
Lee, M. 737
Lee, S. A. 142, 183
Lefèvre, T. 4
Leipertz, A. 932, 946
Lettress, L. M. 684
Lettress, L. 183
Li, J. 183
Li, W. 892
Liang, C.-D. 394
Lim, P. K. 882
Lim, S. J. 882
Liu, G.-K. 221
Loa, I. 611
Loppnow, G. R. 743
Lothon, G. 972
Lucazeau, G. 476, 478, 505
Lückerath, R. 922
Luo, M. 892

Mączka, M. 199, 432
Ma, C. 886
Mączka, M. 371
Magneron, N. 497
Mahurin, S. M. 394
Majchrowski, A. 199, 371
Malarski, A. 946
Malinovskii, V. L. 868
Maniu, D. 705
Manoun, B. 77
March, G. 205
Marcus, B. 505
Marder, T. B. 886
Marques, M. P. M. 357
Martens, W. 90, 104, 145, 751
Martinez-Frias, J. 367
Martinez-Lope, M. J. 240
Marzocchi, M. P. 725
Materny, A. 100
Matousek, P. 886
Mattoso, L. H. C. 831
Matylitsky, V. V. 1045
Matzen, G. 248
Maury, E. L. 57
Mazerolles, L. 205
Mazzah, A. 126, 399
McMillan, P. F. 567
Meier, U. 922
Meier, W. 922
Melo, F. E. A. 826
Mendes, T. S. G. 831
Mendes Filho, J. 199
Menéndez, J. 380
Mermoux, M. 505
Michota, A. 21
Milet, A. 972
Millán, J. I. 227
Milner, R. G. 663
Mishima, K. 989
Mochalov, S. 983
Mohan, V. 183
Morell, G. 192
Morozov, V. B. 952, 977
Morozov, V. 983
Moszynski, R. 972
Moulin, B. 248, 497
Mugnier, J. 234
Mulvaney, S. P. 163
Musso, M. 157

Natan, M. J. 163
Naumann, D. 33
Navarre, S. 902
Nelson, W. H. 192
Nielsen, C. J. 322, 711
Nielsen, O. F. 375
Nieuwoudt, M. K. 77
Nitsch, K. 388
Nogueira, H. I. S. 350
Novičkovas, A. 471
Núñez, J. 264

Olenin, A. N. 952, 977
Olenin, A. 983
Ong, L. R. 282
Osmanov, S. A. 813
Ostrovskii, D. 40
Oswalt, J. 497
Ouasri, A. 126, 399
Ouillon, R. 819
Oussaïd, M. 388

Pacurariu, R. 705
Page, J. B. 380
Papet, P. 519
Parker, A. W. 886
Paschoal, C. W. A. 826
Pedeche, S. 248
Pereira, A. S. 578
Pergolese, B. 84
Perottoni, C. A. 244, 259, 578
Petersen, S. 375
Petrov, A. N. 1007
Phillips, D. 886
Picquart, M. 4
Pinan-Lucarré, J.-P. 819
Pinnick, D. A. 142
Pintard, M. 519
Podshivalov, A. A. 999, 1007, 1018
Pogorelov, V. E. 813
Pohl, H. 33
Polian, A. 633
Pommier, C. J. S. 769
Popov, V. K. 952
Popović, L. 77
Popp, J. 276, 413
Potma, E. O. 642
Powell, D. L. 322, 711
Prevost, D. 459
Pruzan, P. 591, 819

Querel, G. 248

Rachet, F. 965, 972
Radi, P. P. 1037
Radi, P. 919, 989
Raimboux, N. 497

Copyright © 2003 John Wiley & Sons, Ltd.

Rajaram, R. K. *50, 806*
Ramakrishnan, V. *13, 50, 112, 172, 806*
Ramasubbu, A. *112*
Ramaswamy, S. *50, 806*
Ranson, P. *819*
Ren, B. *221*
Ren, J. *380*
Rhandour, A. *126, 399*
Rhee, H. *737*
Ribeiro-Claro, P. J. A. *350, 863*
Richards, D. *663*
Riehn, C. *1045*
Rintoul, L. *306*
Rodríguez-Amaro, R. *227*
Roger, J. *57*
Romaniewska, A. *68*
Rosman, N. *505*
Rouquette, J. *519*
Rull Perez, F. *367*

Saini, G. S. S. *315*
Saint-Loup, R. *994*
Sanchez-Cortes, S. *227*
Santoro, M. *549, 557*
Santos, I. A. *826*
Sato, T. *135*
Schettino, V. *557*
Schlücker, S. *276, 413*
Schmitt, M. *100, 413*
Schneider, S. *26*
Schoonover, J. R. *404*
Schreder, B. *100*
Seeger, T. *932, 946*
Seit-Enon, M. *813*
Serghiou, G. *587*
Shamir, J. *33*
Shantha, P. K. *315*
Shcherbakov, A. V. *688*
Shebanova, O. N. *845*
Shen, S. *322*
Shen, Z. X. *668*
Shi, D. *892*
Shtykova, A. A. *1007*
Shur, M. S. *471*
Sidorov-Biryukov, D. A. *688, 999, 1013, 1018*
Simon, P. *248, 497*
Sin, S. Y. *795*
Sinha, P. K. *276*
Skibina, N. B. *688*
Slim, H. *205*
Smulevich, G. *725*
Soares-Santos, P. C. R. *350*
Souza Filho, A. G. *199*
Spitzer, H. *989*
Stanforth, R. *282*
Stefani, V. *244*
Stricker, W. *922*
Stropp, J. *26*
Struzhkin, V. V. *532*
Su, H. *907*
Suda, J. *135*
Sun, W. X. *668*
Sun, X. *306*
Suzuki, Y. *135*
Szeghalmi, A. *413*
Szostak, R. *68*

Tao, J. *322*
Taravillo, M. *264*
Tashkenbaev, U. N. *813*
Téllez, S. C. A. *837*
Terekhov, S. N. *868*
Terme, T. *172*
Teruya, M. Y. *831*
Thanga, H. H. *315*
Theo Kloprogge, J. *214*
Thomas, R. L. *886*
Thomson, G. A. *131, 345*
Thorley, F. C. *131*
Tian, Z.-Q. *221*
Tielens, F. *295*
Towrie, M. *886*
Trachta, G. *26*
Tran, H. *994*
Trindade, T. *350*
Tschuschke, C. *886*
Tse, W. S. *882*
Tu, C.-S. *152*
Tukhvatullin, F. H. *813*
Tulej, M. *989, 1037*
Tunkin, V. G. *952, 977*
Tunkin, V. *983*
Turpin, P.-Y. *868*

Umadevi, M. *13, 112, 172, 806*
Umbach, E. *100*

Valeev, A. A. *952*
Vanderperre, A. *290*
Vanelle, P. *112, 172*
Vaz, P. D. *863*
Verma, A. L. *315*
Vitta, P. *471*

Wang, C. *121*
Wang, H. *465*
Wang, J. *465*
Wang, R. *306*
Waśkowska, A. *432*
Weier, M. L. *760, 776*
Weiner, B. R. *192*
Widjaja, E. *282, 795*
Williams, P. A. *104, 145, 214, 751*
Winkler, U. *100*
Winkler, W. *157*
Wolanin, E. *591*
Wrzalik, R. *424*
Wu, D.-Y. *221*
Wu, Q. *892*
Wu, R. *121*
Wu, X. *451*
Wulf, H. C. *375*

Xie, X. S. *642*
Xu, C. *121*
Xuan, X. *465*

Yakovlev, D. V. *952*
Yakovlev, V. V. *957*
Yamamoto, M. *1*
Yang, Y. J. *882*
Yao, J.-L. *221*
Yarasi, S. *743*
Ye, Y. *892*
Yoon, W. S. *271*
Yu, L. E. *795*

Zabotnov, S. V. *999*
Zalewska-Rejdak, J. *424*
Zhang, H. *465*
Zhang, S. L. *404*
Zhao, X. *121*
Zheltikov, A. M. *677, 688, 999, 1007, 1013, 1018*
Zheltikov, A. *919*
Zheng, C. *322*
Ziegler, L. D. *97, 640*
Žukauskas, A. *471*
Zuo, J. *121*

Copyright © 2003 John Wiley & Sons, Ltd.

JOURNAL OF RAMAN SPECTROSCOPY
J. Raman Spectrosc. 2003; **34**: 1054–1056

JRS

Keyword Index to Volume 34

absorption 13
ab initio calculations 322, 711, 863, 892
ab initio pair-anisotropy model 972
acidification 451
acids 438
adelite 104
adenine 651
adsorption 221, 227, 271
AgFON 26
aggregate formation 813
alkali metal hexatungstates 432
aluminate 404
amber 157
amorphization 578
anharmonicity 478
annabergite 90, 751
anterlite 145
anvil cell devices 264
apatite 214
apertureless probe 668
applications 743
archaeometry 205
archeology 420
L-argininium dinitrate 50
arsenate 104
arsenate minerals 751
artificial mummification 375
austinite 104
axial ligands 868

$BaCuSi_2O_6$ 121
benzene 221
benzohydroxamic acids 295
benzoic acid 394
benzoxazole dye 244
betaine–sulfamic acid crystal 693
2,3-bis(2-pyridyl) pyrazine 907
2,3-bis(chloromethyl)-1,4-naphthoquinone 172
2,5-bis(benzoxazol-2′-yl)-4-methoxyphenol 244
4,4′-biphenyl diisocyanide 271
blue shift 863
bond polarizability 380
boric acid 578
boron tribromide 684
Brillouin scattering—High pressure—High temperature—Elastic properties 633
brochantite 145
brucite 760
buckminsterfullerene 380
butylammonium hexafluorosilicate 126

C_{60} 380
C—H···O hydrogen bond 863
cadmium sulfide 100
calcite Raman spectra 367
carbon nanotubes 611, 1018, 1025
carbonate origin in meteorites 367
carbonic acid 952
carbon dioxide 983
carboxylic group 806
β-carotene 413
carrboydite 760
CARS 957, 989
CARS microscope 651
CARS microscopy 642
CARS spectroscopy 952
CARS thermometry 932
CARS thermometry precision 940
cationic coordination 40
cell division 1
ceramics 290, 420
cetyltrimethylammonium bromide 315
chain silicates 587
chemical imaging 642
chemical pharmaceutical analysis 837
chemical transformation 819
chemometrics 795
chlorosilane compounds 902
cis-stilbene 886
cobalt arsenate 90
cobalt porphyrins 868
coherent anti-Stokes Raman 989
coherent anti-stokes Raman scattering 677
coinciding wavenumbers in Raman and infrared spectra 33
collagen 424
collision-induced raman scattering 972
collision-induced scattering 965
colloid 227
colloidal gold 163
colossal magnetoresistance 240
combustion 922
complementary spectroscopic information 795
composition 205
conducting polymers 259
conductivity 831
configurational isomers 413
confocal Raman 131
conformational analysis 357, 711
conformational order 4
conformational stability 322
contour fitting fuel/air ratio 946
corrosion 145, 786
critical point 952
crystal growth 882
crystallography 725
$(Cs)_{0.26}(Rb)_{0.74}H(SO_4)_{0.89}(SeO_4)_{0.11}$ 253
$CsPbCl_3$ 388
cubic anharmonic term 135
$CuInS_2$ 142
deconvolution 253
deformation potentials 478
degenerate four-wave mixing 1025, 1030
dehydration 90
density 126, 399
density functional theory 276, 295, 413, 892
deoxycytidine 183
dephasing 977
depolarization ratio of bands 813
deuterated isotopomers 886
deuterated malic acid 68
DFT calculations 705
diagrammatic methods 965
diamond 264, 515
diamond anvil cell 557
diamond films 505
1,5-diaminoanthraquinone 13
α,ω-dicarboxylic acids 795
differential scanning calorimetry 126, 399
diffractive optic element 131
dimethylformamide 813
N,*N*-dimethylformamide 465
dipyrone 837
disproportionation reaction of SO_2 248
dithiodipyridines 350
DNA base 651
doping 831
double resonance 1037
Dual-pump CARS 946
duftite 104

electromagnetic enhancement 651
electronic conjugation 725
entropy minimization 282, 795
equation of state 591
erythrite 90, 751
ester group 4
ethene–air flame 946
ethyl thiacarbocyanine 1007
ethyldibromosilane 322
evaporated silver films 163

factor group analysis 806
femtosecond 989
femtosecond laser 994
femtosecond pulses 999, 1007, 1013, 1018
Fermi resonance 40
ferroelectrics 199, 371, 524
fibers 688
fission yeast 1
fluorescence 13
fluorescence emission 112, 172
fluorescence normalization 471

Copyright © 2003 John Wiley & Sons, Ltd.

fluorescence polarization 13, 172
food dyes 26
force field calculations 240
formaldehyde aqueous solutions 459
formic acid 1045
2-formylfuran 705
fossil resins 157
four-wave mixing 688, 989, 1013, 1045
Fourier transform infrared spectroscopy 557
Fourier transform Raman spectroscopy 157, 282
frequency shift 135
FT-IR spectrum 806
FT-Raman 795, 837
FT-Raman spectrum 806
FTIR 795
FTIR spectroscopy 4
Fukui functions 295

gas bubbles 248
gas phase 1045
gaseous neon 972
gaseous mixtures 965
Gd_2O_3 234
germanium nitride 567
glass 205, 420
glaze 420
glushinskite 776
glutaraldehyde 424
gold 21, 271
gold nanoparticles 651
ground-state dynamics. 989
ground-state potential 1037
Guanidyl group 50

hörnesite 751
harmonic generation 999, 1018
HCO 1037
heat treatment 451
hemin 315
herbicide 892
hexagonal sodium molybdate 451
hexagonal tungsten bronze 199
hexagonal tungsten bronzes 371
high pressure 244, 264, 478, 519, 524, 532, 549, 567, 578, 587, 591, 611, 628, 819, 932
high pressures 684
high temperature 497, 519, 532
high-pressure infrared spectroscopy 259
high-pressure properties 142
high-pressure Raman spectroscopy 259, 769
high-temperature measurements 248
high-throughput analysis 26
hollow microstructure fibers 677
humboldtine 776
hydration 424, 459
hydrogen bond 693
hydrogen bonding 57, 806
hydrogenation 221
hydrohonessite 760
hydrotalcite 760

ice VII, VIII, X 591
imine formation 737
inclusion studies 112
incremental polarizabilities 965
industrial glasses 248
inelastic light scattering 371
inelastic x-ray scattering 628
infrared absorption 183
infrared and laser Raman spectra 50
infrared and Raman spectra 322
infrared spectra 68
infrared spectroscopy 214, 388
in situ monitoring 737
in situ Raman monitoring 505
intensified charge-coupled device 497
intensity 743
intermolecular hydrogen bonding 50
ion association 465
ion solvation 465
IR spectroscopy 549
Iran 420
iron protoporphyrin IX chloride 315
isotope effects 380

J-aggregation 1007

$K_3[Cr(O_2)_4]$ 339
köttigite 751
$KNbW_2O_9$ 371

lapis lazuli 420
laser diagnostic of combustion 940
laser heating 587, 845
lattice dynamic analysis 240
lattice dynamics 611, 819
lattice vibrational mode 882
lead compounds 282
lead zirconate titanate 519
light-emitting diode 471
linear and non-linear spectroscopy 922
linewidth 135
linkage monolayers 853
lipid chain 4
lithium conducting electrolytes 40
lithium phosphate 77
living cell 1
low temperature 183, 549
low-noise measurement 471
lucigenin 227

magnetism 549
magnetite 845
malic acid enantiomers 68
mapping 902
medium-range order 587
megabar pressures 515
melting pressure 684
metal coordination 276
metal nanoparticles 350
metals 532
metastable transitions 567
2-methyl-1,4-naphthoquinone 112
2-methyl-3-chloromethyl-1,4-naphthoquinone 172
2-(methylthio)benzothiazole 84
3-methylbenzothiazoline-2-thione 84
3-methylglutaric acid 57
micro-Raman spectroscopy 248
microfluidic chip 737
microscopy 957
mimetite 214
mineral spectroscopic characterization 367
mitosis 1
model membranes 4
molecular collisions 983
molecular crystals 684
molecular electrostatic maps 295
molecular relaxation 983
molecular spectra 1030
monolayers of 4-mercaptobenzoic acid 21
moolooite 776
mountkeithite 760
multiplexed detection 131
multivariate curve resolution 404

N_2 932
$(NH_4)_3[Cr(O_2)_4]$ 339
nano-clusters 152
nano-structure 524
nanocomposite materials 999
nanocrystalline carbon 192
nanocrystals 999
nanophase 438
nanophases 786
nanostructures 100
naphthalocyanine 306
natroxalate 776
natural rubber 831
near field 668
near-field optical microscopy 663
near-infrared Fourier transform 375
Nekht-Ankh mummy 375
non-linear optics 677
non-linear polarization 965
non-linear spectroscopy 989
non-linear susceptibility 1025
NSOM 655, 663

O_2 932
oligomer hydrates 459
on-chip detection 737
optical absorption 112, 172
optical diagnostics 922
order–disorder 388
ordered nano-regions 152
ortho-/para-deuterium ratio 989
orthogonal polarizations 345
L-ornithine nitrate 806
overtone progression 886
oxalate 776
oxammite 776
oxidation 845
oxygen 549

parallel and perpendicular polarized components of bands 813
parasymplesite 751
pericardium tissue 424
perovskite 519
perovskites 524

Copyright © 2003 John Wiley & Sons, Ltd.

peroxidase 725
peroxochromates 339
phase transition 126, 253, 519, 611, 826
phase transitions 77, 152, 199, 371, 388, 478, 567, 587
phenacite 567
phenylacetylene 557
phenylammonium hexafluorosilicate 399
phonon dispersion curve 135
phonons 628
phospholipid membranes 642
photochromism 1013
photonic crystal 677
photonic crystals 688
photoreduction 315
phytol 4
picolinic acid 276
picosecond pulses 957
picosecond spectroscopy 886
pigment 290
pigments 121
pink 290
plasma chemical vapour deposition 505
platinum electrode 221
Pockels 497
polarizability tensor 1045
polarization 33
polarized light 693
Polyacetylene 259
polyamines 357
polyaniline 831
polyanilines 438
polycyclic aromatic hydrocarbons 795
polymerization 557
polystyrene 157
porphyrin 306
pottery figurines 121
power broadening 1030
pressure scale 515
pressure-induced phase change 769
processing 205
proton conductivity 253
protons 438
pure component spectral reconstruction 282, 795
pure rotational CARS 932
putrescine 357
pyrochlores 240
pyromorphite 214
pyroxene 769

Qilakitsoq mummy 375
quantum dots 100
quartic anharmonic term 135

Raman 163, 786
Raman and infrared spectra 711
raman cross-sections 972
Raman imaging 668
Raman meteorites 367
Raman microscopy 121, 214, 345, 375, 668, 737, 760
Raman near-field 655
Raman scattering 4, 142, 183, 388, 497
Raman spectra 68, 135, 199, 253, 306, 478, 684, 819
Raman spectroscopy 40, 77, 90, 104, 126, 145, 399, 404, 459, 845
Raman tensor 693
Raman-active modes 244
rare earth 306
Rayleigh 786
$Rb_3[Cr(O_2)_4]$ 339
realtime 957
relax or ferroelectrics 152
relaxor ferroelectric 826
relaxors 524
resonance 290
resonance Raman 868, 907
resonance Raman spectroscopy 259, 315
Rochon prism 345
rotational CARS 940
rotational constants 1037, 1045
rotational isomers 705
rotational Raman spectroscopy 994
rotational transitions 977
ruthenium(II) complexes 907

sandwich complexes 306
self-assembled monolayers 902
self-assembly 853
semiconductors 100
SERS 13, 21, 26, 84, 112, 163, 172, 663, 853
shielding tensor 693
short-range force model 240
SiC fibres 786
siegburgite 157
silanes 711
silica beads 394
silicon carbide 999
silicon wafers 902
silver 21, 84
silver films 394
silver malate 68
single crystal 152
singular value decomposition 282
skeletal C_2 symmetry 33
skin 375
SNOM 655, 663
sodium and potassium salts 57
sodium dodecyl sulfate 315
sodium tetrafluoroborate 465
sol–gel 234
solid nitromethane 819
solvent effects 743
sp^3-bonded carbon 192
spectral lineshapes 1030
spermidine 357
spermine 357
spodumene 769
stability 244
stimulated emission pumping 1037
strontium barium niobate 826
structural phase transitions 399
structure 205
substrates 163
sulphate 145
sunscreens 743
superconductor oxides 532
supercritical fluids 952
surface adsorption 350
surface enhanced Raman spectroscopy 221
surface plasmons 663
surface-enhanced Raman scattering 227, 271, 350, 394, 663
surface-enhanced Raman spectroscopy 295, 705
symmetry adapted perturbation theory 972
synchrotron radiation research 628

takovite 760
temperature 922
temperature measurement 994
temperature measurements 932, 946
ω-terminated alkanethiols 853
thin films 192, 234
third-harmonic generation 1007
time- and space-resolved Raman spectroscopy 1
time-domain CARS 977
time-domain CARS spectroscopy 983
time-resolved resonance Raman 886
tin oxide 290
tocopherol 4
Tomb of the Two Brothers 375
trans-diaquabis(picolinato)zinc(II) dihydrate complex 276
transmethylation 84
transmission electron microscopy 234
tungsten bronzes 432
two-color resonant four-wave mixing 1037
two-dimensional correlation analysis 451
two-phonon density of states 135
two-photon-absorption resonance 1007

ultra-cold neutrons 989
ultra-fast spectroscopy 989
unenhanced Raman scattering 902
uv Raman spectroscopy 192

Vaca Muerta mesosiderite 367
vanadinite 214
vibrational excitation 1037
vibrational properties 432
vibrational spectra 57
vibrational spectroscopy 863
vinyl orientation 725
vitamin E 4
vivianite 751

water 438, 471
waveguide 677
waveguide Raman spectroscopy 234
weddellite 776

x-ray 126
X-ray diffraction 399
x-ray diffraction 591

YAG crystals 882

zirconia 497
zirconium tungstate 578

Copyright © 2003 John Wiley & Sons, Ltd.

Contents of Volume 34

NUMBERS 1 JANUARY 2003

Rapid Communication

Molecular-level pursuit of yeast mitosis by time-and-space-resolved Raman spectroscopy 1
Y-S. HUANG, T. KARASHIMA, M. YAMAMOTO AND H. HAMAGUCHI

Raman and Fourier transform infrared study of phytol effects on saturated and unsaturated lipid multibilayers 4
M. PICQUART AND T. LEFÈVRE

Investigations on 1,5-diaminoanthraquinone by laser excitation 13
M. UMADEVI AND V. RAMAKRISHNAN

Surface-enhanced Raman scattering (SERS) of 4-mercaptobenzoic acid on silver and gold substrates 21
A. MICHOTA AND J. BUKOWSKA

A new version of AgFON substrates for high-throughput analytical SERS applications 26
J. STROPP, G. TRACHTA, G. BREHM AND S. SCHNEIDER

Vibrational spectra and structures of fluoroalkyl and fluoroaryl compounds of tellurium, $Te_2(CF_3)_2$, $Te_2(C_6F_5)_2$ and $Te(C_6F_5)_2$ 33
B. HOGE, D. NAUMANN, H. POHL AND J. SHAMIR

Weak polymer-electrolyte interaction revealed by Fermi resonance perturbed Raman bands 40
D. OSTROVSKII, M. EDVARDSSON AND P. JACOBSSON

Vibrational spectroscopic studies of L-argininium dinitrate 50
S. RAMASWAMY, R. K. RAJARAM AND V. RAMAKRISHNAN

Analyse vibrationelle et stucturale en série aliphatique saturée. XI—Spectres de vibration de l'acide 3-méthylglutarique et de ses sels alcalins 57
J. ROGER, J. L. DELARBRE AND L. MAURY

Vibrational spectra of racemic and enantiomeric malic acids 68
H. BARAŃSKA, J. KUDUK-JAWORSKA, R. SZOSTAK AND A. ROMANIEWSKA

Raman spectroscopic study of phase transitions in Li_3PO_4 77
L. POPOVIĆ, B. MANOUN, D. DE WAAL, M. K. NIEUWOUDT AND J. D. COMINS

Transmethylation of 2-(methylthio) benzothiazole on silver sols: a SERS investigation 84
B. PERGOLESE AND A. BIGOTTO

Raman spectroscopy of synthetic erythrite, partially dehydrated erythrite and hydrothermally synthesized dehydrated erythrite 90
W. MARTENS, R. L. FROST AND J. T. KLOPROGGE

NUMBER 2 FEBRUARY 2003

Editorial

The Raman effect 75 years after 97
D. BOUGEARD, H. HAMAGUCHI AND L. D. ZIEGLER

Raman spectroscopy of II-VI semiconductor nanostructures: CdS quantum dots 100
B. SCHREDER, C. DEM, M. SCHMITT, A. MATERNY, W. KIEFER, U. WINKLER AND E. UMBACH

Molecular structure of the adelite group of minerals – a Raman spectroscopic study 104
W. MARTENS, R. L. FROST AND P. A. WILLIAMS

Spectral investigations on 2-methyl-1,4-napthoquinone: solvent effects, host-guest interactions and SERS 112
M. UMADEVI, A. RAMASUBBU, P. VANELLE AND V. RAMAKRISHNAN

Analysis of the pigments on painted pottery figurines from the Han Dynasty's Yangling Tombs by Raman microscopy 121
J. ZUO, X. ZHAO, R. WU, G. DU, C. XU AND C. WANG

Structural phase transition in $(n\text{–}C_4H_9NH_3)_2SiF_6$: DSC and Raman studies 126
H. JEGHNOU, A. OUASRI, A. RHANDOUR, M.-C. DHAMELINCOURT, P. DHAMELINCOURT AND A. MAZZAH

Hyper-spectral Raman imaging using a diffractive optical element 131
G. A. THOMSON, F. C. THORNLEY AND D. N. BATCHELDER

Lattice dynamics and temperature dependence of the first-order Raman spectra for α–SiO_2 crystals 135
S. ICHIKAWA, J. SUDA, T. SATO AND Y. SUZUKI

High pressure Raman scattering study of the A_1 mode of $CuInS_2$ 142
D. A. PINNICK AND S. A. LEE

Raman spectroscopic study of the basic copper sulphates—implications for copper corrosion and 'bronze disease' 145
W. MARTENS, R. L. FROST, J. T. KLOPROGGE AND P. A. WILLIAMS

Study of ordered nano-regions in $Pb(Zn_{1/3}Nb_{2/3})_{0.915}$ $Ti_{0.085}O_3$ single crystal using Raman spectroscopy 152
P. S. DOBAL, R. S. KATIYAR AND C. S. TU

Fourier transform Raman spectroscopic data on the fossil resin siegburgite 157
W. WINKLER, M. MUSSO AND E. CH. KIRCHNER

Three-layer substrates for surface enhanced Raman scattering: preparation and preliminary evaluation 163
S. P. MULVANEY, L. HE, M. J. NATAN AND C. D. KEATING

Spectral investigations on 2-methyl-3-chloromethyl-1,4-napthoquinone and 2,3-bis(chloromethyl)-1,4-naphthoquinone under laser excitation 172
M. UMADEVI, P. VANELLE, T. TERME AND V. RAMAKRISHNAN

Book Review
The Raman effect 180

NUMBER 3 MARCH 2003

Temperature-dependent Raman and infrared spectra of nucleosides: III. deoxycytidine 183
J. LI, S. A. LEE, A. ANDERSON, L. LETTRESS, R. H. GRIFFEY AND V. MOHAN

Ultraviolet and visible Raman spectroscopic investigations of nanocrystalline carbon thin films grown by bias-assisted hot-filament chemical vapor deposition 192
S. GUPTA, B. R. WEINER, W. H. NELSON AND G. MORELL

Pressure- and temperature-dependent Raman studies of $KNbW_2O_9$ hexagonal tungsten bronze 199
M. MAÇZKA, A. G. SOUZA FILHO, P. T. C. FREIRE, J. MENDES FILHO, S. KOJIMA, J. HANUZA AND A. MAJCHROWSKI

Raman identification of materials used for jewellery and mosaics in Ifreqiya 205
P. COLOMBAN, G. MARCH, L. MAZEROLLES, T. KARMOUS, N. AYED, A. ENNABLI AND H. SLIM

Isomorphic substitution in vanadinite $[Pb_5(VO_4)_3C1]$-a Raman spectroscopic study 214
R. L. FROST, M. CRANE, P. A. WILLIAMS AND J. T. KLOPROGGE

Adsorption and hydrogenation of benzene at platinum electrode surfaces probed by confocal Raman microscopy 221
J.-L. YAO, B. REN, G.-K. LIU, D.-Y. WU, R.-A. GU AND Z.-Q. TIAN

Adsorption of lucigenin on Ag nanoparticles studied by surface-enhanced Raman spectroscopy: effect of different anions on the intensification of Raman spectra 227
J. I. MILLÁN, J. V. GARCIA-RAMOS, S. SANCHEZ-CORTES AND R. RODRÍQUEZ-AMARO

Waveguide Raman spectroscopy of sol-gel Gd_2O_3 thin films 234
C. LE LUYER, A. GARCÍA-MURILLO, E. BERNSTEIN AND J. MUGNIER

Vibrational spectra and force field calculation of $A_2Mn_2O_7$ (A = Y, Dy, Er, Yb) pyrochlores 240
S. BROWN, H. C. GUPTA, J. A. ALONSO AND M. J. MARTINEZ-LOPE

Raman investigation of 2,5-bis (benzoxazol-2′-yl)-4-methoxyphenol under high pressure 244
N. M. BALZARETTI, M. R. GALLAS, T. M. H. COSTA, V. STEFANI, C. A. PEROTTONI AND J. A. HERZ DA JORNADA

Probing gas bubbles inside industrial glasses by Raman scattering 248
S. PEDECHE, P. SIMON, G. MATZEN, B. MOULIN, K. BLANCHARD AND G. QUEREL

Vibrational study of the superionic-protonic phase transition of $(Cs)_{0.26}(Rb)_{0.74}H(SO_4)_{0.89}(SeO_4)_{0.11}$ 253
S. KAMOUN AND M. GARGOURI

NUMBER 4 APRIL 2003

High-pressure Raman and infrared spectroscopy of polyacetylene 259
N. M. BALZARETTI, C. A. PEROTTONI AND J. A. HERZ DA JORNADA

Diamond as pressure sensor in high pressure Raman spectroscopy using sapphire and other gem anvil cells 264
V. G. BAONZA, M. TARAVILLO, A. ARENCIBIA, M. CÁCERES AND J. NÚÑEZ

Adsorption of 4,4′-biphenyl diisocyanide on gold nanoparticle surfaces investigated by surface-enhanced Raman scattering 271
S. W. JOO, W.-J. KIM, W. S. YOON AND I. S. CHOI

Vibrational spectroscopic investigations and density functional theory calculations on *trans*-diaquabis(picolinato)zinc(II) dihydrate complex 276
P. K. SINHA, M. BOLBOACA, S. SCHLÜCKER, J. POPP AND W. KIEFER

Fourier transform Raman spectral reconstruction of inorganic lead mixtures using a novel band-target entropy minimization (BTEM) method 282
L. R. ONG, E. WIDJAJA, R. STANFORTH AND M. GARLAND

Pink pigment optimization by resonance Raman spectroscopy 290
X. FAUREL, A. VANDERPERRE AND P. COLUMBAN

Raman and DFT study of the vibrational properties of some *para*-substituted benzohydroxamic acids: towards an interpretation of SER Spectra 295
O. BLAJIEV, A. HUBIN, F. TIELENS AND P. GEERLINGS

Raman spectroscopic characteristics of phthalocyanine and naphthalocyanine in sandwich-type phthalocyaninato and porphyrinato rare earth complexes. Part 5—Raman spectroscopic characteristics of naphthalocyanine in mixed [tetrakis(4-*tert*-butylphenyl)porphyrinato] (naphthalocyaninato) rare earth double-deckers 306
X. SUN, L. RINTOUL, Y. BIAN, D. P. ARNOLD, R. WANG AND J. JIANG

Photoreduction of iron protoporphyrin IX chloride in ionic detergent micelles probed by resonance Raman spectroscopy 315
P. K. SHANTHA, G. S. S. SAINI, H. H. THANGA AND A. L. VERMA

Spectra and structure of silicon-containing compounds XXXVI-Raman and infrared spectra, conformational stability, *ab initio* calculations and vibrational assignment of ethyldibromosilane 322
G. G. GUIRGIS, P. KLAEBOE, S. SHEN, D. L. POWELL, A. GRUODIS, V. ALEKSA, C. J. NIELSEN, J. TAO, C. ZHENG AND J. R. DURIG

NUMBER 5 MAY 2003

Vibrational spectra of the peroxochromates$(NH_4)_3[Cr(O_2)_4]$,$K_3[Cr(O_2)_4]$ and $Rb_3[Cr(O_2)_4]$ 339
H. HAEUSELER AND G. HAXHILLAZI

Raman spectroscopy with simultaneous measurement of two orthogonally polarized Raman spectra 345
G. A. THOMSON, K. J. BALDWIN AND D. N. BATCHELDER

Surface adsorption of 4,4′-dithiodipyridine and 2,2′-dithiodipyridine on silver nanoparticles 350
H. I. S. NOGUEIRA, S. M. G. CRUZ, P. C. R. SOARES-SANTOS, P. J. A. RIBEIRO-CLARO AND T. TRINDADE

Raman spectra of putrescine, spermidine and spermine polyamines and their *N*-deuterated and *N*-ionized derivatives 357
A. M. AMORIM DA COSTA, M. P. M. MARQUES AND L. A. E. BATISTA DE CARVALHO

Identification of calcite grains in the Vaca Muerta mesosiderite by Raman spectroscopy 367
F. R. PEREZ AND J. MARTINEZ-FRIAS

Brillouin study of phase transitions in $KNbW_2O_9$ bronze 371
M. MACZKA, J.-H. KO, S. KOJIMA, A. MAJCHROWSKI AND J. HANUZA

Near-infrared Fourier transfer Raman spectroscopy of skin samples from the 'Tomb of the Two Brothers', Khnum-Nakht and Nekht-Ankh, XIIth Dynasty Egyptian mummies (ca. 2000 BC) 375
S. PETERSEN, O. F. NIELSEN, D. H. CHRISTENSEN, H. G. M. EDWARDS, D. W. FARWELL, R. DAVID, P. LAMBERT, M. GNIADECKA AND H. C. WULF

Isotope effects on the Raman spectrum of buckminsterfullerene C_{60} 380
J. REN, J. B. PAGE AND J. MENÉNDEZ

Raman scattering investigation of cesium plumbochloride, $CsPbCI_3$, phase transitions 388
C. CARABATOS-NÉDELEC, M. OUSSAÏD AND K. NITSCH

Study of silver films over silica beads as a surface-enhanced Raman scattering (SERS) substrate for detection of benzoic acid 394
L. L. BAO, S. M. MAHURIN, C.-D. LIANG AND S. DAI

NUMBER 6 JUNE 2003

Structural phase transition in $[C_6H_5NH_3]_2SiF_6$: differential scanning calorimetry and Raman studies 399
H. JEGHNOU, A. OUASRI, A. RHANDOUR, M.-C. DHAMELINCOURT, P. DHAMELINCOURT AND A. MAZZAH

Raman spectroscopy and multivariate curve resolution of concentrated $A1_2O_3$-Na_2O-H_2O Solutions 404
J. R. SCHOONOVER, S. L. ZHANG AND C. T. JOHNSTON

Density functional and vibrational spectroscopic analysis of β-carotene 413
S. SCHLÜCKER, A. SZEGHALMI, M. SCHMITT, J. POPP AND W. KIEFER

Lapis lazuli as unexpected blue pigment in Iranian Lâjvardina ceramics 420
PH. COLOMBAN

Hydration of glutaraldehyde-fixed pericardium tissue: Raman spectroscopic study 424
M. JASTRZEBSKA, R. WRZALIK, A. KOCOT, J. ZALEWSKA-REJDAK AND B. CWALINA

Vibrational studies of alkali metal hexatungstates 432
M. MĄCZKA, J. HANUZA AND A. WAŚKOWSKA

Protonation, sol formation and precipitation of poly- and oligoanilines 438
A. GRUGER, A. EL KHALKI AND PH. COLUMBAN

Characterization of a series of sodium molybdate structures by two-dimensional Raman correlation analysis 451
B. CHAE, Y. M. JUNG, X. WU AND S. B. KIM

Raman analysis of formaldehyde aqueous solutions as a function of concentration 459
N. LEBRUN, P. DHAMELINCOURT, C. FOCSA, B. CHAZALLON, J. L. DESTOMBES AND D. PREVOST

Raman spectroscopic and DFT studies on solutions of $NaBF_4$ in *N,N*-dimethylformamide 465
X. XUAN, H. ZHANG, J. WANG AND H. WANG

Short Communication
Raman measurements in water using a high-power light-emitting diode 471
A. ŽUKAUSKAS, A. NOVIČKOVAS, P. VITTA, M. S. SHUR AND R. GASKA

NUMBER 7/8 JULY/AUGUST 2003

Special Issue: Raman Spectroscopy under Extreme Conditions

Editorial
W. KIEFER

Preface to the special issue on Raman Spectroscopy under Extreme Conditions 476
G. LUCAZEAU

Effect of pressure and temperature on Raman spectra of solids: anharmonictiy 478
G. LUCAZEAU

High temperatures and Raman scattering through pulsed spectroscopy and CCD detection 497
P. SIMON, B. MOULIN, E. BUIXADERAS, N. RAIMBOUX, E. HERAULT, B. CHAZALLON, H. CATTEY, N. MAGNERON, J. OSWALT AND D. HOCRELLE

***In situ* Raman monitoring of the growth of CVD diamond films** 505
M. MERMOUX, B. MARCUS, L. ABELLO, N. ROSMAN AND G. LUCAZEAU

Megabar high-pressure cells for Raman measurements 515
M. I. EREMETS

Raman scattering studies at high pressure and low temperature: technique and application to the piezoelectric material $PbZr_{0.52}\ Ti_{0.48}\ O_3$ 519
J. HAINES, J. ROUQUETTE, V. BORNAND, M. PINTARD, PH. PAPET AND F. A. GORELLI

High-pressure Raman spectroscopy of nano-structured ABO_3 perovskites: a case study of relaxor ferroelectrics 524
J. KREISEL AND P. BOUVIER

Raman spectroscopy of metals, high-temperature superconductors and related materials under high pressure 532
A. F. GONCHAROV AND V. V. STRUZHKIN

High-pressure antiferromagnetic phases of solid oxygen 549
F. A. GORELLI AND M. SANTORO

High-pressure polymerization of phenylacetylene and of the benzene and acetylene moieties 557
M. SANTORO, L. CIABINI, R. BINI AND V. SCHETTINO

High-pressure metastable phase transitions in β-Ge_3N_4 studied by Raman spectroscopy 567
P. F. MCMILLAN, S. K. DEB AND J.-J. DONG

Raman spectroscopy as a probe for *in situ* studies of pressure-induced amorphization: some illustrative examples 578
A. S. PEREIRA, C. A. PEROTTONI AND J. A. H. DA JORNADA

High-pressure phase transitions in tetrahedrally coordinated chain structures 587
G. SERGHIOU

Phase diagram of ice in the VII-VIII-X domain. Vibrational and structural data for strongly compressed ice VIII 591
PH. PRUZAN, J. C. CHERVIN, E. WOLANIN, B. CANNY, M. GAUTHIER AND M. HANFLAND

Raman spectroscopy on carbon nanotubes at high pressure 611
I. LOA

Status of phonon studies at high pressure by inelastic x-ray scattering 628
M. KRISCH

Brillouin scattering at high pressure: an overview 633
A. POLIAN

NUMBER 9 SEPTEMBER 2003

Editorial 639
W. KIEFER

Preface to the Special Section on *Recent Advances in Raman Imaging: CARS and Near-field Techniques* 640
L. D. ZIEGLER

Special Section on Recent Advances in Raman Imaging: CARS and Near-field Techniques

Detection of single lipid bilayers with coherent anti-Stokes Raman scattering (CARS) microscopy 642
E. O. POTMA AND X. S. XIE

Local enhancement of coherent anti-stokes Raman scattering by isolated gold nanoparticles 651
T. ICHIMURA, N. HAYAZAWA, M. HASHIMOTO, Y. INOUYE AND S. KAWATA

The electric field at the apex of a near-field probe: implications for nano-Raman spectroscopy 655
H. D. HALLEN AND C. L. JAHNCKE

Tip-enhanced Raman microscopy: practicalities and limitations 663
D. RICHARDS, R. G. MILNER, F. HUANG AND F. FESTY

Near-field scanning Raman microscopy using apertureless probes 668
W. X. SUN AND Z. X. SHEN

Regular papers

The l^2/a^4 theorem of waveguide CARS enhancement revised for hollow microstructure fibers 677
A. M. ZHELTIKOV

Raman spectra of molecular crystals at high pressures: VIII—Boron tribromide 684
A. ANDERSON AND L. M. LETTRESS

Hollow-core photonic-crystal fibers optimized for four-wave mixing and coherent anti-Stokes Raman scattering 688
S. O. KONOROV, A. B. FEDOTOV, D. A. SIDOROV-BIRYUKOV, V. I. BELOGLAZOV, N. B. SKIBINA, A. V. SHCHERBAKOV AND A. M. ZHELTIKOV

Raman, infrared and ^{13}C NMR studies on betaine-sulfamic acid (2:1) crystal and its hydrogen bonds 693
M. M. ILCZYSZYN AND. M. ILCZYSZYN

Raman spectroscopy, surface-enhanced Raman spectroscopy and density functional theory studies of 2-formylfuran 705
T. ILIESCU, M. BOLBOACA, R. PACURARIU, D. MANIU AND W. KIEFER

Vibrational spectroscopic studies, conformations and *ab initio* calculations of 1,1,1-trifluoropropyltrifluorosilane 711
A. GRUODIS, V. ALEKSA, D. L. POWELL, P. KLAEBOE, C. J. NIELSEN, G. A. GUIRGIS AND J. R. DURIG

NUMBER 10 OCTOBER 2003

Relationship between heme vinyl conformation and the protein matrix in peroxidases 725
M. P. MARZOCCHI AND G. SMULEVICH

Applicability of laser-induced Raman microscopy for *in-situ* monitoring of imine formation in a glass microfluidic chip 737
M. LEE, J-P. LEE, H. RHEE, J. CHOO, Y. G. CHAI AND E. K. LEE

Solvent effects on sunscreen active ingredients using Raman spectroscopy 743
L. BEYERE, S. YARASI AND G. R. LOPPNOW

Raman spectroscopic study of the vivianite arsenate minerals 751
R. L. FROST, W. MARTENS, P. A. WILLIAMS AND J. T. KLOPROGGE

Raman spectroscopy of some natural hydrotalcites with sulphate and carbonate in the interlayer 760
R. L. FROST, M. L. WEIER AND J. T. KLOPROGGE

Raman spectroscopic study of spodumene ($LiAlSi_2O_6$) through the pressure-induced phase change from $C2/c$ to $P2_1/c$ 769
C. J. S. POMMIER, M. B. DENTON AND R. T. DOWNS

Raman spectroscopy of natural oxalates at 298 and 77K 776
R. L. FROST AND M. L. WEIER

Skin/bulk nanostructure and corrosion of SiC-based fibres: a surface Rayleigh and Raman study 786
M. HAVEL AND PH. COLOMBAN

Application of FT-Raman and FTIR measurements using a novel spectral reconstruction algorithm 795
S. Y. SIN, E. WIDJAJA, L. E. YU AND M. GARLAND

Infrared and Raman spectral studies of L-ornithine nitrate 806
S. RAMASWAMY, M. UMADEVI, R. K. RAJARAM AND V. RAMIKRISHNAN

Intermolecular interaction in liquid dimethylformamide and its manifestation in Raman spectra 813
F. H. TUKHVATULLIN, V. E. POGORELOV, U. N. TASHKENBAEV, A. JUMABOEV, H. HUSHVAKTOV, M. SEIT-ENON AND S. A. OSMANOV

Pressure effect at room temperature on the low-energy Raman spectra of nitromethane-h_3 and -d_3 up to 45 GPa 819
J.-P. PINAN-LUCARRÉ, R. OUILLON, B. CANNY, PH. PRUZAN AND P. RANSON

Low-temperature Raman spectra of $Sr_{0.66}Ba_{0.34}Nb_2O_6$ single-crystal fibers 826
J. L. B. FARIA, P. T. C. FREIRE, A. P. AYALA, F. E. A. MELO, J. M. FILHO, C. W. A. PASCHOAL, I. A. SANTOS AND J. A. EIRAS

Effect of natural rubber latex on the conducting state of polyaniline blends determined by Raman spectroscopy 831
A. E. JOB, C. J. L. CONSTANTINO, T. S. G. MENDES, M. Y. TERUYA, N. ALVES AND L. H. C. MATTOSO

Fourier transform Raman spectroscopy of drugs: quantitative analysis of 1-phenyl-2,3-dimethyl-5-pyrazolone-4-methylaminomethane sodium sulfonate: (dipyrone) 837
A. O. IZOLANI, M. T. DE MORAES AND C. A. TÉLLEZ S.

NUMBER 11 NOVEMBER 2003

Raman study of magnetite (Fe_3O_4): laser-induced thermal effects and oxidation 845
O. N. SHEBANOVA AND P. LAZOR

Structures of monolayers formed from different HS—$(CH_2)_2$—X thiols on gold, silver and copper: comparative studies by surface-enhanced Raman scattering 853
A. KUDELSKI

C–H···O hydrogen bonds in liquid cyclohexanone revealed by the νC=O splitting and the νC–H blue shift 863
P. D. VAZ AND P. J. A. RIBEIRO-CLARO

Resonance Raman characterization of cationic Co(II) and Co(III) tetrakis(*N*-methyl-4-pyridinyl)porphyrins in aqueous and non-aqueous media 868
S. N. TEREKHOV, S. G. KRUGLIK, V. L. MALINOVSKII, V. A. GALIEVSKY, V. S. CHIRVONY AND P.-Y. TURPIN

Raman scattering investigation of Yb:YAG crystals grown by the Czochralski method 882
Y. F. CHEN, P. K. LIM, S. J. LIM, Y. J. YANG, L. J. HU, H. P. CHIANG AND W. S. TSE

Time-resolved resonance Raman study of S_1 *cis*-stilbene and its deuterated isotopomers 886
W. M. KWOK, C. MA, D. PHILLIPS, A. BEEBY, T. B. MARDER, R. LI. THOMAS, C. TSCHUSCHKE, G. BARANOVIĆ, P. MATOUSEK, M. TOWRIE AND A. W. PARKER

Density functional and *ab initio* studies of the molecular structure and vibrational spectra of novel *O,O′*-diethyl-*N*-(α-aryloxyacetyl)thiophosphorylhydrazine herbicides 892
W. LI, Q. WU, Y. YE, M. LUO, D. SHI AND J. HU

Structural characterization of self-assembled monolayers by unenhanced Raman spectroscopy 902
F. CHOPLIN, S. NAVARRE, J. BOUSBAA, P. BABIN, B. BENNETAU, J.-L. BRUNEEL AND B. DESBAT

Resonance Raman and time-resolved resonance Raman spectra of the monomeric and dimeric complexes of ruthenium(II) with 2,3-bis(2-pyridyl)pyrazine (dpp) 907
H. SU AND J. R. KINCAID

NUMBER 12 DECEMBER 2003

Special Issue: Proceedings of the European Conference on Nonlinear Optical Spectroscopy (ECONOS)

Editorial 917
W. KIEFER

Preface to the second special issue on non-linear Raman spectroscopy and related techniques 919
P. RADI AND A. M. ZHELTIKOV

Temperature measurements in combustion—not only with CARS: a look back at one aspect of the European CARS Workshop 922
W. STRICKER, R. LÜCKERATH, U. MEIER AND W. MEIER

High-pressure pure rotational CARS: comparison of temperature measurements with O_2, N_2 and synthetic air 932
T. SEEGER, F. BEYRAU, A. BRÄUER AND A. LEIPERTZ

Precision of single-shot dual-broadband rotational CARS thermometry with single-mode and multi-mode Nd:YAG lasers 940
M. AFZELIUS AND P.-E. BENGTSSON

Determination of temperatures and fuel air ratios in an ethene-air flame by dual-pump CARS 946
F. BEYRAU, T. SEEGER, A. MALARSKI AND A. LEIPERTZ

Linewidths and shifts of carbon dioxide CARS spectra near the critical point 952
V. G. ARAKCHEEV, V. N. BAGRATASHVILI, A. A. VALEEV, V. M. GORDIYENKO, V. V. KIREEV, V. B. MOROZOV, A. N. OLENIN, V. K. POPOV, V. G. TUNKIN AND D. V. YAKOVLEV

Advanced instrumentation for non-linear Raman microscopy 957
V. V. YAKOVLEV

Non-linear intermolecular polarization and collision-induced ν_3 Raman transition by gaseous CO_2 in mixture with argon 965
F. RACHET, M. CHRYSOS AND A. KOUZOV

Extended wavenumber domain collision-induced Raman scattering by gaseous neon 972
F. RACHET, M. CHRYSOS, G. LOTHON, R. MOSZYNSKI AND A. MILET

Rotational time-domain CARS in H_2: departure from statistically independent collisional dephasing model 977
V. G. ARAKCHEEV, D. V. JAKOVLEV, V. B. MOROZOV, A. N. OLENIN AND V. G. TUNKIN

Density evolution of the picosecond time-domain CARS responses from carbon dioxide gas 983
V. MOROZOV, S. MOCHALOV, A. ONENIN, V. TUNKIN AND A. KOUZOV

Determination of the *ortho-/para* deuterium concentration ratio with femtosecond CARS 989
G. KNOPP, K. KIRCH, P. BEAUD, K. MISHIMA, H. SPITZER, P. RADI, M. TULEJ AND T. GERBER

Temperature measurement in gas mixtures by femtosecond Raman-induced polarization spectroscopy 994
H. TRAN, B. LAVOREL, O. FAUCHER, R. SAINT-LOUP AND P. JOUBERT

Anomalous behaviour of the second and third harmonics generated by femtosecond Cr:forsterite laser pulses in SiC-polymer nanocomposite materials as functions of the SiC nanopowder content 999
S. O. KONOROV, D. A. AKIMOV, A. A. IVANOV, M. V. ALFIMOV, S. V. ZABOTNOV, D. A. SIDOROV-BIRYUKOV, A. B. FEDOTOV, A. A. PODSHIVALOV, L. FORNARINI, M. CARPANESE, M. AVELLA, M. E. ERRICO, R. FANTONI AND A. M. ZHELTIKOV

J-aggregation visualized with two-photon-resonant third-harmonic generation 1007
D. A. AKIMOV, A. A. IVANOV, M. V. ALFIMOV, E. P. GRABCHAK, A. A. SHTYKOVA, A. N. PETROV, A. A. PODSHIVALOV AND A. M. ZHELTIKOV

Femtosecond time-resolved two-photon absorption resonant four-wave mixing in three-dimensional spiropyran-PMMA samples 1013
S. O. KONOROV, D. A. SIDOROV-BIRYUKOV, I. BUGAR, D. CHORVAT JR, D. CHORVAT AND A. M. ZHELTIKOV

Femtosecond optical harmonic generation as a non-linear spectroscopic probe for carbon nanotubes 1018
S. O. KONOROV, D. A. AKIMOV, A. A. IVANOV, M. V. ALFIMOV, S. BOTTI, R. CIARDI, L. DE DOMINICIS, L. S. ASILYAN, A. A. PODSHIVALOV, D. A. SIDOROV-BIRYUKOV, R. FANTONI AND A. M. ZHELTIKOV

DFWM: a proposed method to measure $\chi^{(3)}$ on carbon nanotubes on the nanosecond time-scale 1025
S. BOTTI, R. CIARDI, L. DE DOMINICIS, R. FANTONI, L. S. ASILYAN, A. FIORI AND R. APPOLLONI

Saturation effects in molecular spectroscopy using degenerate four-wave mixing 1030
K. BULTITUDE, R. BRATFALEAN AND P. EWART

Stimulated emission pumping by two-color resonant four-wave mixing: rotational characterization of vibrationally excited HCO($\tilde{X}^2A'$) 1037
P. P. RADI, M. TULEJ, G. KNOPP, P. BEAUD AND T. GERBER

Time domain fingerprints of a 'perpendicular' rotational Raman band: formic acid studied by femtosecond degenerate four-wave mixing 1045
C. RIEHN, V. V. MATYLITSKY AND M. F. GELIN

Author Index 1051

Keyword Index 1054

Volume Contents iii